

ADJUSTABLE CONTAINER CARRIAGE

BACKGROUND OF THE INVENTION

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This invention relates to a mobile container carriage. More specifically, it refers to a four wheeled mobile carriage for supporting containers of various dimensions.

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Container carriages or dollies are common devices for assisting in moving large, heavy loads as seen by descriptions in many prior art references. In addition, U.S. Patents 4,166,638 and 4,545,592 describe carriages that are adjustable in length and width to accommodate loads of different dimensions. Such adjustable carriages are more versatile and more desirable. However, the prior art adjustable devices are cumbersome and time consuming to adjust, particularly for different widths as shown in U.S. 4,545,592.

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An adjustable carriage is needed which can be easily narrowed or widened to accommodate different containers.

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SUMMARY OF THE INVENTION

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The present invention solves the prior art problem by providing an adjustable carriage that can be either narrowed or widened by the flick of a latch and can be disassembled for storage. The invention is a carriage having a fixed front and rear wheel assembly connected by a central connecting member. Each wheel assembly has an axle housing with a rotating wheel at each end. An upright support frame rests on the top of each

end portion of the axle housings between the central connecting member and the wheel. The support frames have engagement ridges on a top surface and side edges for engagement with a slidable planar platform. A complimentary spike on a bottom surface of the planar platform engages the ridges to lock the platform in position until a latch at an inboard end of the planar platform is lifted to disengage the spike and allow the platform to move to or away from the central connecting member and thereby narrow or widen the carriage.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention can be best understood by those having ordinary skill in the art by reference to the following detailed description when considered in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of the adjustable container carriage of this invention, with snap on tie down clamps at the end of straps.

FIG. 2 is a perspective view of the carriage of FIG. 1 supporting an open container.

FIG. 3 is a broken partially sectional view of the axle housing, upright support frame and movable container platform.

FIG. 4 is a perspective view of the adjustable container carriage with alternate tie down straps.

FIG. 5 is a perspective view of the carriage of FIG. 4

supporting a closed container.

FIG. 6 is an exploded view of the carriage with a snow ski conversion assembly.

FIG. 7 is a cross sectional view along line 7-7 of FIG. 3.

FIG. 8 is an exploded view of the front portion of the adjustable container carriage.

DETAILED DESCRIPTION OF THE BEST MODE

Throughout the following description, the same reference numerals refer to the same elements in all figures.

Referring to FIG. 1, the adjustable container carriage 10 has a front wheel assembly 12 and a rear wheel assembly 14 connected together by a central connecting member 16. The connecting member 16 has a snap in engagement to a front axle housing 18 at its front end through opening 86 and to a rear axle housing 20 at its rear end at a like opening. Each axle housing has a movable wheel at each end. Axle housing 18 has a metal shaft 66 at each end on which wheels 22 and 24 turn. Likewise, axle housing 20 has metal shafts 66 at each end on which wheels 26 and 28 turn. The front axle housing 18 is integral with a top surface of a right 30 and left 32 upright support frame and the rear axle housing 20 likewise is integral with a top surface of a right 34 and left 36 upright support frame.

Referring to FIG. 2, the adjustable container carriage 10

has an open container 38 resting on four movable planar platforms 40, 42, 44 and 46. A pliable rope 48 with a handle 50 is used to pull the carriage and container. The rope 48 bottom end is engaged through opening 84 in axle housing 18. Alternatively, the rope 48 could be substituted with a rod or other similar device for pushing or pulling the carriage 10. Straps 52 and 54 are connected at a bottom slot 82 to axle housing 18 and 20, respectively. A top of each strap 52 and 54 has a clamp 56 and 58, respectively for holding the container 38 in place when the straps 52 and 54 are tightened.

The mechanism for widening or narrowing the platform for receipt of the container 38 is shown in FIGS. 3 and 7. The upright frame 32 is integral with a top surface of axle housing 18. A top surface 60 of frame 32 has multiple ridges 62 perpendicular to the axle housing 18. In addition, the top surface 60 has side edges 64 which slide in C-channels 65 on each side of a planar platform 42 so that platform 42 can move inwardly or outwardly. The platform 42 has a latch 68 with a bottom surface having a spike 63 corresponding to and engaging between ridges 62. By lifting latch 68, the ridges 62 and spike 63 disengage so platform 42 can move inwardly or outwardly to accommodate the width of container 38. Upright walls 70 integral with platforms 40, 42, 44 and 46 act as a stop to prevent a container from moving sideways off the

carriage 10.

As shown in FIGS. 4 and 5, alternate means for connecting straps 52 and 54 can be used. Female connector 72 accepts male connector 74 to fixedly attach the ends of straps 52 and 54.

5 Other connectors can be employed in like manner. Containers can assume many shapes and can be open as shown in FIG. 2 for container 38 or closed as shown in FIG. 5 for container 76.

10 Right ski 78 or left ski 80 can be attached to wheels 22/26 and 24/28, respectively to use carriage 10 in snow or on ice.

15 The front wheel assembly 12, the rear wheel assembly 14, the central connecting member 16, the wheels 22, 24, 26 and 28, and the movable planar platforms 40, 42, 44 and 46 are all disengageable for compact storage. They are made of a high strength polymer.

20 Equivalent elements can be substituted for the elements of carriage 10 to provide substantially the same result, in substantially the way to achieve substantially the same function.